Planned or emerging futures? Addressing climate change on regional level by strategic planning

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Abstract

Climate change is an emerging planning and policy-making task from global and national to regional and local levels. Lately, particularly the sub-national level planning has been emphasized. Climate change strategies aim to reduce uncertainty on the climate induced societal changes and to find ways to proactively adapt to them. However, climate change is a complex phenomenon and a wicked problem and hence poses challenges to planning.

This paper discusses strategic planning as a forum and tool for addressing climate change on regional level. In addition to theoretical discussion, examples from the collaborative planning process of the Regional Climate Change Strategy 2030 of Finnish Lapland are given. The case study shows that the changing climate has become a dynamic actor in regional development that can bring also new opportunities to the region, change weaknesses into strengths and even change the strategic position of the region.

Regional development related strategic planning can serve well as a context and tool for climate change adaptation. However, the task to promote regional development can lead to less emphasis on global and environmental concerns and more on ensuring the auspicious development in the region.

Keywords: strategic planning, regional development, climate change, regional level

Introduction

Development strategies have been formulated since mid-1990s for improving regional attractivity and socio-economic competitiveness by turning challenging development factors into strengths (Sotarauta 1996, Jauhiainen and Niemenmaa 2006, Eskelinen and Fritsch 2010). In many Northern, sparsely populated and peripheral regions in the Arctic, like Finnish Lapland, regional economies rely largely on the use of natural areas and natural resources. Hence, in regional development policies, natural conditions have been seen as starting points for the development work.

Climate change is expected to have particularly strong impacts in the Arctic, both for Arctic communities and nature (ACIA 2004, AHDR 2004). As climate change is expected to change natural conditions in perhaps fundamental ways, the view on the trends of regional development and the region's strengths and weaknesses may need updating and adaptation planning is needed for adapting to the changes. Climate change adaptation is increasingly planned on different geographical scales and levels, including the regional level, for reducing uncertainty about the localized effects of the global and all-encompassing phenomenon.

Strategic planning is receiving increasing attention as a method and context for planning and policy formation for climate change adaptation. Climate change strategies attempt to govern the changes, to reduce and manage the uncertainty about the localized effects of this global phenomenon by directing collective action and to find ways to adapt to the anticipated changes. Strategic planning serves hence also as a context and method for assessing the regional socio-economic impacts of climate change. Currently subnational, i.e. local or regional, climate change strategies are still a rather recent innovation, but good practices are sought for in different parts in or close to the Arctic, such as in the Barents region and on Nordic level.

In this paper, strategic planning is discussed as a tool and context for climate change related planning on regional level. Climate strategies can address both adaptation and mitigation in different proportions or focus on either one. In this article, adaptation is emphasized. The empirical part presents some results of a case study from the European Arctic: the collaborative planning process of the Regional Climate Change Strategy 2030 of Finnish Lapland.

The regional level in the multi-level governance of climate change

Climate change is a global phenomenon in geographical and political senses, but it is meaningful also on other geographical scales. Greenhouse gas emissions produced in one location accelerate the changes globally, but the emissions and the effects are regionally differentiated. Hence, interests concerning climate change mitigation and adaptation differ between different parts of the world. Also different parts of countries can suffer or benefit from climatic changes in different ways. Consequently, both mitigation and adaptation of climate change should be considered on many spatial scales and administrational levels (see e.g. Slocum 2004, Juhola 2010, Keskitalo 2010, Tennberg 2012).

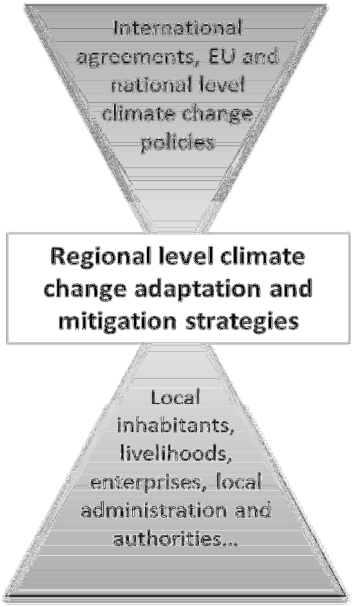

Figure 1 Regional level as a mediator between local and national to international levels in climate change adaptation (Mettiäinen 2013)

According to Keskitalo (ibid.), multilevel governance means decision-making that is steered by both public, private and other interests in processes across multiple geographical scales and sectors. Even if climate change mitigation is regarded as more efficient when negotiated on global level, for climate change adaptation the global and even national levels can be too large. Indeed, the role of state actors in policy-making regarding climate change has during the recent years been challenged by a growing recognition to the importance of also smaller, sub-national geographical or spatial levels when discussing topics such as community vulnerability to the effects of climate change (e.g. Keskitalo 2008, Himanen et al. 2012, see also Tennberg 2012). On the other hand, international and interregional approaches in climate change adaptation strategies are gathering regions across national borders to collaborate. The collaboration in preparing regional climate strategies in the Barents Euro-Arctic Region are an example of this (see Himanen et al. 2012). Also international collaboration in climate strategy issues takes place for instance in the Nordic countries (Lonkila 2012) and the Baltic Sea Region (see

Andersson 2013). Collaboration in climate change issues can contribute to region-building of these regions as the mutual interests regarding the impacts of climate change and adaptation to them as well as similarities in the governance structure or the planning and administrational cultures of the countries or regions are elucidated. For climate change adaptation in the Arctic, also the European Union (EU) and Arctic Council are crucial actors (Tennberg 2012, see also European Commission 2013 and Arctic Council 2013).

Regional and local levels are suggested for planning and finding locally suitable models for adaptation as well as for the implementation of the national and international adaptation policies by legitimate solutions and practices. For instance both the EU and Arctic Council emphasize also the importance of local and regional policies and planning. The regional level can serve as the meeting point for the macro and micro levels, as presented in the figure 1. Fürst (2009) sees regional level planning as a possible mediator between different logics of action particularly in pursuing sustainable development. On the regional level, the international and national policies meet the life worlds and interests of local inhabitants, municipalities, other non-governmental organizations and livelihoods. In peripheral and sparsely populated areas the regional level can be more recommendable than municipalities, because municipalities can be too small for taking action for climate adaptation (Himanen et al. 2012). The regional level may serve in some cases more as a mediator of national legislation and goals to regional and local level, ie. top-down, but also bottom-up approaches are useful in climate change adaptation (Slocum 2004). Scaling the climate change issues from global and national to local and regional levels makes them relevant and meaningful to people.

National and regional climate change mitigation and/or adaptation strategies have started to emerge in Europe during the last decade (Swart et al. 2009). For instance Finland published its first National Climate Strategy in 2001 that focused on the national emission targets regarding the Kyoto protocol. The National Adaptation Strategy from 2005 was a forerunner in European context (ibid.). Finland's Climate and Energy Strategy from 2005 discusses municipalities and regions in implementing national climate goals (Ministry of Trade and Industry 2005) and the Climate and Energy Strategy from 2008 sets forth the formulation of municipal and regional climate strategies based on the national strategy (Himanen et al. 2012). Whereas the regional level climate change strategies were mostly absent in Finland in

2009, by 2012 local or regional climate change adaptation related strategies covered more than half of Finnish population (ibid., Himanen et al. 2012, Tennberg 2012). Still, Norwegian and Swedish municipalities have been more active in formulating local climate change strategies than municipalities in Finland (Lonkila 2012), and in regional climate work for instance Great Britain is ahead Finland (Haanpää et al. 2009).

In the case study region of this article, Finnish Lapland, the regional climate change strategy was formulated in 2010-2012 partly simultaneously with other regional and local climate strategies in Northern Finland (see Himanen et al. 2012). Climate change had already been considered to some extent in previous, general regional development policies of Lapland since early 2000s, partly following the emerging climate awareness of some key business sectors such as tourism and forestry. Since 2009, when the Regional Scheme 2030 was reinforced, climate change has been one of the major trends affecting regional development in Lapland. However, the regional impacts of climate change and adaptation to them were not analyzed and planned systematically until the preparation of the Regional Climate Change Strategy 2030. (Mettiäinen 2013.)

In addition to Finnish Lapland, regional climate change strategies have been formulated in the Barents region by for example Northern Ostrobotnia region in North Finland, Kainuu region in North-Eastern Finland and Västerbotten in North Sweden, and the regional impacts of climate change have been assessed in Murmansk Oblast, Russia (e.g. Himanen et al. 2012). Moreover, the Barents Euro-Arctic Council aims to formulate regional climate change strategies to also other BEAR member regions. In Nordic countries, however, municipalities are seen as central in reaching the EU2020 and national climate targets. The strong role of municipalities with state support available, such as in Sweden, has been identified as a successful combination for climate change work. (Lonkila 2012.) In 2012, as much as 99 % of municipalities in Norway had a climate strategy or were preparing one, 81 % in Sweden and 34 % in Finland but only 11 % in Iceland (ibid.). In Denmark climate adaptation work is undertaken by municipalities (see Paludan and Francke 2008).

Promises and challenges of strategic planning as a method for climate adaptation

Strategic planning is gaining increasing interests as a promising method for planning climate change adaptation and mitigation policies on regional level. The purpose of strategic planning is to reduce uncertainty and to direct collective action in the region so that the region can meet the future challenges well prepared and proactively make its own future. This is thought to happen through identifying the current state of the region such as the core aspects of the region's competitiveness and the strategic challenges and by agreeing on a commonly desired future vision for the region as well as the measures to be taken for reaching the vision. By strategic planning, regions also aim to produce new, innovative ideas that would enhance regional competitiveness and promote the desired future. (Sotarauta 1997, Sotarauta and Lakso 2001, Bryson et al. 2009, Eskelinen and Fritsch 2010.) When seen as a way of knowing about the fundamental questions on the existence, purpose and future of a region (Bryson et al. 2009), strategic planning can also serve as a way of producing knowledge about the future impacted by climate induced changes.

Strategic planning requires a more or less formalized process, but strategic thinking is not necessarily tied to formal planning processes nor result from or within it. (Bryson et al. 2009, Mintzberg 1994). In addition to planned adaptation measures such as those included in climate change strategies, also some un-planned, emergent strategies and measures can take place, as the figure 2 illustrates. Proactive planning for climate change mitigation and adaptation is close to foresight. Sometimes strategies can be classified as autonomous or spontaneous if they are related to observed environmental or societal changes but not declared to be related to the bigger picture of climate change. However, such actions are sometimes later on identified as climate change related and get afterwards the status of emergent strategies to mitigate or adapt to climate change. (Mintzberg 1994, IPCC 2007).

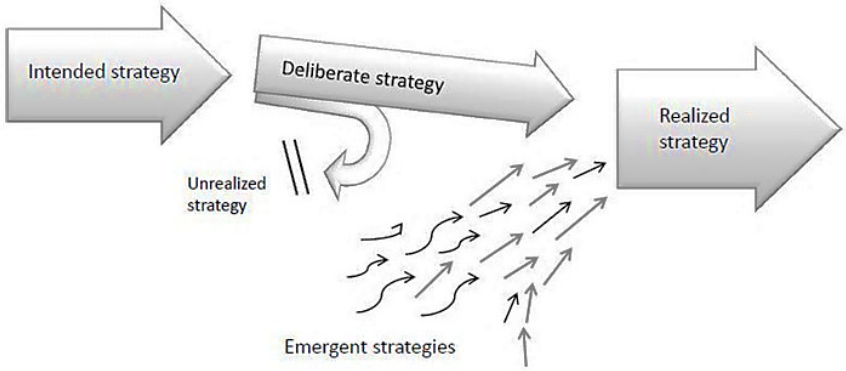

Figure 2 Forms of strategy (Mintzberg 1994)

Whereas the classical planning model or the "rational approach" regarded planning as designing the ways and actions needed in order to reach the well-chosen goals based on complete knowledge, nowadays planning is better described as management of complexity and uncertainty (Sotarauta 1996, 1997, Hulme 2010, Woerkum et al. 2011, see also Tennberg 2012). Climate change is indeed a good example of the complex planning tasks or problems planners and decision-makers face nowadays.

Many features of wicked problems describe climate change well as a planning task (see e.g. Rittel and Webber 1973, Ritchey 2005-2011). It is an extremely wide, nearly all-encompassing phenomenon that doesn't have clear boundaries to the extent that it can be utilized as a justification for various other issues (Hulme 2010). Solutions to the problems arising due to wicked problems such as climate change are difficult to recognize because of the complex interdependencies and contradictory and often changing requirements involved (Swart et al. 2009). One complete solution to the problem probably does not even exist. It also remains uncertain if the measures taken will solve wicked problems as they cannot be completely defined (Rittel and Webber 1973).

A question often emphasized in the context of climate change and planning is knowledge. Knowledge gaps exist from the natural scientific viewpoint as well as in the science-policy nexus (e.g. Frolov and Kattson 2009, Swart et al. 2009). Even "complete" natural scientific knowledge about the effects of climate change would in Hulme´s (2010) view not suffice because human behavior, the other source of change, is highly unpredictable. Both scenarios and strategies aim to reduce the unpredictability of human behavior.

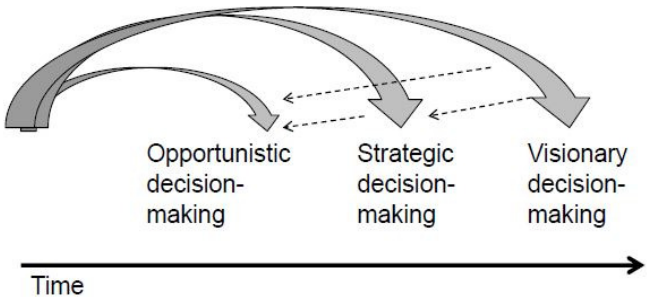

Figure 3 Time spans of decision-making (Kamppinen and Malaska 2002)

As Kamppinen and Malaska (2002) have pointed out, different time spans of decision-making require different kinds of thinking. Whereas addressing phenomena with long time span requires visionary thinking and decision-making, opportunistic decision-making is applied in more momentary situations. However, the longer time-span development plans should guide decision-making also on the two shorter time spans (see figure 3). Climate change policies and work would require visionary decision-making but immediate action for mitigation and adaptation. A problem regarding climate strategies may be that many of the climate induced changes will be mostly actualized earliest in the end of the 21st century, which is also the time span used in climate projections. The centennial time span is however outside of the spheres of strategic planning due to the exponentially increasing uncertainty: many societal and technological changes are nearly impossible to predict or foresee decades ahead. This poses challenges for planning in general and for strategic planning as a tool.

Case study: Addressing climate change by strategic planning in Finnish Lapland

The purpose and task of the planning process of Lapland's Regional Climate Change Strategy 2030 (Regional Council of Lapland 2011) was to formulate a climate change mitigation and adaptation strategy that, in addition to getting prepared for the anticipated risks, takes a look also at the possibilities of utilizing the possibilities that may open for Lapland as a region as a result of climate change by the year 2030. This is a rather long time span for a strategy, but relatively short for climate change. Lapland's climate change strategy was formulated

within a collaborative planning process March 2010 onwards. The strategy was reinforced in December 2011 and the following year was used for planning and partly also executing the implementation phase.

Data and methods

Data collection on the planning process of Lapland's Regional Climate Change Strategy 2030 was conducted during 24 months between March 2010 and February 2012. Methods included participatory observation of public workshops, thematic workshops, steering board meetings and key person working group meetings as well as interviews. In addition, different written materials produced during the planning processes were collected. The research approach had features of evaluation research. Moreover, the methodological guidelines of actor-network theory (ANT) were followed. For instance Bryson et al. (2009) and Johnson et al. (2007) recommend actor-network approach for research on strategic planning.

In this working paper the outcome of the collaborative planning process of the Regional Climate Change Strategy 2030 is analyzed in the form of facts or artifacts created during the translation process (e.g. Latour 1987, Kraal et al. 2011), based on discoursive content analysis of the Regional Climate Change Strategy 2030 document and the observation notes made during the planning process.

New facts created about the future of Finnish Lapland

During the planning process of Lapland's Regional Climate Change Strategy 2030 several new facts on post or in the middle of climate change Lapland were created. In the strategy, climate change was anchored as a central actor for regional development in Finnish Lapland. Moreover, contrary to the previous regional development policies of the region (see Mettiäinen 2013), climate change was now seen as an actor that can bring several positive aspects for the region.

Climate change was defined as an opportunity for Finnish Lapland from several viewpoints. It was stated for instance that Lapland is a carbon sink. More renewable energy is produced than used in the region, and climate change will enhance the possibilities of producing more hydroelectric power in Lapland as precipitation increases. The accelerating growth of forests

that already make the region a carbon sink, makes it possible to use more wood for energy and new materials (eg. bio-plastic), and the less harsh climatic conditions can benefit agriculture. Also new transportation routes, particularly North East passage, can bring opportunities for Lapland particularly in 2030 onwards. Furthermore, the amount of snow-cover days is expected to reduce in Lapland, but less than in competing tourism destinations for instance in the Alps. On the other hand, it was concluded that climate change poses threats to nature-based livelihoods and the natural environments of Lapland. For instance weaker ice on rivers, lakes and mires can cause problems to timber transportation and reindeer herding. Also new pests and diseases may arrive to trouble reindeer herding, forestry and agriculture.

Some topics were redefined from climate change adaptation or mitigation perspective. For instance one of the traditional problems of peripheral regions is that they serve as global natural resource reserves but the refinement of the raw materials is done elsewhere. Before, this was widely seen as a problem for the employment and as added value lost from the region. However, in Lapland's Regional Climate Change Strategy 2030 this problem was translated into a global carbon leakage: "If the natural resources of Finnish Lapland are refined outside the region, for instance utilizing electricity produced by charcoal, greenhouse gases will increase globally and at simultaneously local business opportunities are lost".

Another "new fact" created puts together climate change, flood protection, hydroelectric power production and the persistent aims in Lapland to build Vuotos or the "multiple-use water reservoir of Kemijoki river headwaters" in Eastern Lapland. The Vuotos project has been largely debated since the 1970's and despite much effort from various actors it has been rejected on national level and lately also due to EU directives several times (e.g. Suopajärvi 2001). However, in the Regional Climate Change Strategy 2030, the Vuotos question emerged as necessary for flood protection in Rovaniemi and for utilizing the increasing potential for hydro-electric power as climate change increases precipitation and runoff in Lapland.

Also the Arctic location of Finnish Lapland at the edge of the EU and in the Barents region, until now peripheral and distant from the contemporary centres of the world, is expressed as a rising strength in the Regional Climate Change Strategy of Finnish Lapland 2030. As the

North-East passage is expected to open for transportation soon after 2030, Lapland is presented as the possible new hub or corridor for transportation as Lapland will be located close to the global flows of goods and can serve as a gateway to the Arctic natural resources, if the new world order concentrating more around the Arctic seas actualizes as anticipated. This means that the strategic importance and geopolitical centrality of Finnish Lapland, as well as of its neighbouring areas in the Barents region, is expected to increase. The coldness of the area compared to many others has also been turned into strength: even if the amount of snow cover days that are crucial for winter and particularly Christmas tourism will decrease by the end of the century, they will decrease less than in competing tourism destinations. Furthermore the region's expertise in cold conditions can provide opportunities.

In addition to peripherality as a locational aspect (either as such or relatively, compared to other, competing regions), also the demographical aspect is present in the strategy. The previous weakness of sparse population is now turned into strength: in a sparsely populated and only partly industrialized region there is plenty of forests and other natural areas that can serve as a resource for biomaterials, tourism and carbon sink function and as space for eg. hydroelectric water reservoirs. Even the vast amount of nature conservation areas – previously opposed in the region as they were thought to reduce employment in forestry but later on regarded more positively due to their importance for the growing nature-based tourism industry in the region – were turned into a new strength as Lapland is now claiming to be an important carbon sink. Thus, the forests were given a new meaning beyond timber, paper and pulp production and home for reindeer, subsistence livelihoods and tourism and what used to be seen as emptiness or lack of human influence and modernization and even a symbol for external interests was turned from a problem into an opportunity.

Discussion and conclusions

There is a tension between the global and regional or local viewpoints on climate change. The focus on the regional perspective on this global phenomenon of climate change is an issue and choice that deserves a closer look.

Even if Arctic areas are in policy documents, scientific literature and in newspaper headlines often said to suffer first and worst from the effects of climate change, the case study on Finnish Lapland shows that climate change can open also new opportunities to some Arctic regions. The differences between smaller parts of the big circumpolar Arctic should hence not be forgotten despite the importance of the concern. In the case study region, Finnish Lapland, several positive effects or future opportunities for the region were identified during the planning process of the Regional Climate Change Strategy, either in the form of some weaknesses of the region now appearing as future strengths or new opportunities that emerge for the region as a result of climate change. This suggests that the picture of climate change as something solely devastating for the whole Arctic, as often presented in the media, is not sufficient and a more versatile picture should be considered.

Regional level could be a promising geographical and administrational level for planning climate change adaptation and mitigation, depending on the socio-spatial and political context in each Arctic and other country. In Finland, regional councils already are entitled to serve as regional developers and they possess both power given to them by legislation, tools like land-use planning and role in admitting EU project funding, political power and the networks needed for the work. In other countries, other geographical scales and administrational levels may be more suitable, as the analysis reports produced in different parts of or close to the European Arctic set forth.

Adaptation should be planned on a level that is close enough to the communities facing the changes. The regional level can work well when producing knowledge about the socio-economic and cultural impacts of climate change. The effects of climate change on regional level and potentially also on smaller geographical scales such as municipalities should be analyzed, collaboration around the topic should be organized and regional knowledge created. Knowledge production on the impacts of climate change also on the regional level is important because the impacts of climate change differ from one Arctic region to another.

Localized knowledge about the impacts of climate change can be produced in the strategic planning processes as the natural scientific projections on the effects of climate change on different geographical scales is elaborated with the practical knowledge of the region's livelihoods such as reindeer herding and forestry. In the case study region, Finnish Lapland, the significance of climate change culminates especially in increasing precipitation, increasing risk of floods, flood protection and hydro-electric power production. Also the decrease of snow-cover days that are crucial for winter-time tourism could be seen as a symbol for the effects of climate change in the region.

Regional level and regional development work as the context for climate change adaptation and mitigation planning should be considered also critically. The fact that the climate change strategy planning group in Finnish Lapland found several positive aspects or opportunities emerging from climate change stems – beside the more factual aspects – from the background of the strategy: the context of strategic planning as regional development work in general and from the assignment for the strategy formulation as the starting point. As the task or function of regional councils is to carry regional planning and to enhance positive development in the region, it belongs to the logics of regional development related strategic planning to search for opportunities, support the region's competitiveness and to turn existing weaknesses into strengths. Even if this context also allows global concern to be included, if so wished, it also makes it possible to make a solid and consistent strategy that disregards the global needs for reducing greenhouse gas emissions. The regional viewpoint does not necessarily encourage to action for climate change mitigation in a region that is likely to benefit from the changes. However, as climate change will, according to the scientific consensus, cause severe problems to some areas in the world, climate change should be also considered keeping the global picture in mind. Even if the view on the impacts of climate change turned from negative to positive in the planning process of Lapland's Regional Climate Change Strategy 2030, Lapland intends to do its share for mitigating climate change.

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